UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 7
11201 Renner Boulevard
Lenexa, Kansas 66219

FEB 15 2019

MEMORANDUM

SUBJECT: Revised Human Health Risk Assessment
Ameren Huster Electrical Power Substation
St. Charles, Missouri

FROM: Kelly Schumacher, Human Health Risk Assessor
Environmental Data and Assessment Branch
Environmental Sciences and Technology Division

TO: Clint Sperry, Remedial Project Manager
Site Remediation Branch
Superfund Division

As requested, we have reviewed the revised Human Health Risk Assessment, dated December 2018, for the Ameren Huster Electrical Power Substation, located in St. Charles, Missouri. We previously provided comments in September 2018 on the initial draft of this document, which was dated December 2017. Original comments 9, 12, 13, 14, and 16 were not fully addressed in the revised risk assessment and are discussed below. If you have any questions or need further assistance, please contact me at x7963.

Original Comments

9. **Revised Section 1.3.2 (p. 4).** In comment 9, we originally recommended documentation of the statements made in Section 1.3.2, pertaining to decreasing trends and elimination of migration pathways, using the EPA's guidance, reports, and tools, including the Groundwater Statistics Tool. This additional review and documentation has not been conducted for the revised risk assessment. However, this type of analysis is not typically included in a human health risk assessment. In order to finalize this risk assessment, provide references to sections or tables of the remedial investigation to support statements made in the third paragraph of Section 1.3.2 and delete the fourth paragraph of Section 1.3.2. A closer examination of trends, migration, and potential remedies should be addressed in documents that evaluate and select a final remedy for this site, rather than in the risk assessment.

12. **Revised Section 2.1.1 (p. 7), Figure 2, and Attachment A.** In comment 12, we originally noted that not all of the sampling locations were provided in both the text of Section 2.1.1 and depicted in Figure 2. Section 2.1.1 and Figure 2 have been revised, but now samples TBI-1, -3, -5, and -7 are missing from both. Additionally, new sampling locations, IP-27 through -46 are included. However, Section 2.1.1 only mentions IP-28, -29, -32, -33, -36, and -38, while IP-27 through -46 are included in Attachment A. Please make sure all samples IP-27 through -46 are included in Section 2.1.1, Figure 2, *and* Attachment A.

13. **Revised Section 2.1.1 (p. 7) and Attachment A.** Originally, Section 2.1.1 indicated that twelve post-remedial soil samples were collected. Now, Section 2.1.1 indicates that ten post-remedial soil samples were collected. Please ensure that all post-remedial soil samples are discussed in Section 2.1.1, depicted in Figure 2, included in Attachment A, and used in the risk assessment.

16. **Revised Sections 2.1.2 (p. 8), 2.2.2 (p. 9), 2.3.1 (pp. 10 - 11), 2.3.2 (p. 11), and 2.3.3 (p. 12); Tables 2 through 14.** Previously, we stated, "the greater of the detected concentrations or maximum laboratory reporting limits (not method detection limits) should be used to screen for chemicals of potential concern." This comment has not been adequately addressed. Section 2.3.3 now states, "Review of the analytical detection limits for the soil data sets indicates that, for cases where detection limits are higher than the maximum detected concentrations, use of the detection limits to select COPCs would not affect the results of the COPC selection." First, this statement should be supported with actual data. This means that the COPC screening tables should screen using the higher of the maximum detected concentration or maximum laboratory reporting limit for each analyte in each media, and the MRLs should be included in the screening tables. Second, MRLs should also be used to screen for groundwater COPCs. As a reminder, the laboratory reporting limit is the minimum concentration that can be reported with a given degree of precision and accuracy. The true concentration of a non-detected analyte may fall anywhere below the MRL.

New Comments

1. **Sections 1.1 (p. 3) and 1.3.3 (p. 5).** Change "ordnance" to "ordinance."

2. **Section 2.2 (p. 9) and Tables 12 and 13.** It appears that data from only a subset of the monitoring wells that were sampled was used to identify groundwater COPCs. Data from all wells should be used to determine groundwater COPCs.

3. **Section 3.2.1 (pp. 15 - 16) and Table 14.** Out of the monitoring wells located on the substation, six were identified as representing the core of the plume: MW-8, -13, -14, -39, -40, and -41. Of these, Section 3.2.1 indicates that three are screened in the perched clay (MW-39, -40, and -41), while three are screened in the sand aquifer (MW-8, -13, -14). Page 15 states that the perched groundwater represents a different aquifer than the clay unit and that it will never be used as a source of potable water. However, the two units are interconnected. As described in Section 1.3.2 and shown in the data, volatile organic constituents were released from the site into the soil, migrated vertically to groundwater, dispersed in groundwater, and migrated downgradient. The VOCs in the sand aquifer migrated down from the clay. Thus, concentrations detected in wells screened in the perched clay represent concentrations that could disperse in the sand unit. Therefore, all six monitoring wells located in the center of the plume should be used to derive the groundwater EPCs. Revise the text of Section 3.2.1, recalculate the EPCs presented in Table 14, and update the risk estimates presented in Table 20.

4. **Section 3.2.1 (p. 16).** The first paragraph on page 16 indicates that elevated reporting limits were excluded from the groundwater EPC calculations, based on comparison with recent sampling data. First, all of the data used to generate the EPCs was collected in either 2017 or 2018. Thus, all data is recent. Second, ProUCL is capable of handling non-detect data using statistical techniques such as Kaplan-Meier. Non-detect data should not be excluded from the EPC or risk calculations. Revise.

5. **Sections 5 and 6.** Revise the Risk Characterization and Conclusion sections, as well as any relevant tables and attachments, to reflect the above comments.